

**Remarks**

Claims 133-139 and 152-159 are currently pending in the Application. Claims 140 – 151 are withdrawn as a result of a restriction requirement mailed on January 30, 2007. Claims 133 and 153 have been amended. Support for the claim amendments to claims 133 and 153 may be found, for example, in the specification at paragraphs 68, 91, 85, 116, 161, 167 and 171. Accordingly, no new matter has been added to the application by the foregoing claims.

Applicants note that in the previous Amendment, filed on July, 30, 2007, claims 140 – 151 were erroneously listed as “cancelled” in the Listing of the Claims. However, these claims were not cancelled in the Amendment and should have been listed as “withdrawn”, with the full text thereof included in the Claim Listing. Accordingly, in the present Amendment, claims 140 – 151 are listed as “withdrawn”, pursuant to the previous restriction requirement and election of claims 133 – 139.

References made herein to the “Specification” refer to the Substitute Specification submitted with the Declaration of Douglas J. Ryder on July 25, 2003. Where appropriate, citations are made with respect to specific paragraph numbers of the Substitute Specification.

**Claim Rejection-§ 102(e)**

Claims 133-139 and claims 152-159 are rejected under 35 U.S.C. § 102 (e) as being anticipated by U.S. Patent No. 6,463,585 to Hendricks et al. (“Hendricks”). Applicants respectfully traverse this rejection.

Hendricks teaches a system for allowing targeted advertising to be directed to television terminals connected to an operations center or cable headend via a switched digital video network. Supplemental feeder channels are used to carry a plurality of advertisements that can be inserted into a viewing channel during an advertisement opportunity. Viewers are arranged according to a group assignment plan based upon factors such as area of dominant influence, ZIP code, and household income. A switching plan is used to determine whether to substitute the

existing advertisement with an advertisement from a feeder channel, and if so, which feeder channel should be utilized. Hendricks describes the components responsible for selecting advertisements based upon viewer-based data only as “correlation algorithms” which causes a “correlation of demographic information with buy information.” See Hendricks, column 44, lines 7-23 and column 69, line 61 – column 76, line 11. Hendricks is silent with respect to how the correlation algorithms work.

For a rejection under § 102(e) to be proper, a reference must disclose, either explicitly or inherently, each and every element of the claimed invention. Applicants respectfully submit that Hendricks does not teach each and every element recited in independent claim 133.

Independent claim 133, as amended, recites:

A method of identifying consumers likely to be interested in an advertisement, the method comprising:

(a) accessing a plurality of consumer transaction records corresponding to a plurality of consumers and accessing demographic information records corresponding to at least one of the plurality of consumers;

(b) retrieving heuristic rules, wherein said heuristic rules have been pre-defined prior to accessing said plurality of consumer transaction records and wherein said pre-defined heuristic rules have been developed based on at least one psychological or sociological study;

(c) retrieving at least one target consumer characteristic from an advertiser that has been selected at the discretion of the advertiser;

(d) applying said pre-defined heuristic rules to said plurality of consumer transaction records to generate inferred transaction characteristics of the consumers;

(e) generating inferred consumer characteristics of at least one of the consumers by associating the inferred transaction characteristics with demographic information records; and

(f) determining applicability of an advertisement to the at least one consumer by correlating the inferred consumer

characteristics with the target consumer characteristics selected at the discretion of the advertiser.

## **1. Collaborative Filtering vs. Heuristic Rules**

The Examiner contends that heuristic rules are taught in Hendricks (citing specifically column 20, lines 35-48) by stating that, “a simulated profile can be generated using an algorithm ... that analyzes access history and viewing habits. Using test information generated from a statistically significant number of viewers, the simulated profile algorithm estimates the viewer's age, education, sex and other relevant information.” (Office Action, page 2). Applicants respectfully submit, however, that the cited portion of Hendricks, in fact, teaches the well-known concept of collaborative filtering, and not Applicants' claimed invention that utilized predefined heuristic rules.

**Collaborative filtering** (CF) is the method of making automatic predictions (filtering) about the interests of a user by collecting taste information from many users (collaborating). The underlying assumption of CF approach is that: Those who agreed in the past tend to agree again in the future.

For example, a collaborative filtering or recommender system for music tastes could make predictions about which music a user should like given a partial list of that user's tastes (likes or dislikes).

Collaborative Filtering systems usually take two steps: 1. Looking for users who share the same rating patterns with the active user (the user who the prediction is for). 2. Use the ratings from those like-minded users found in step 1 to calculate a prediction for the active user ([www.wikipedia.org](http://www.wikipedia.org))

The well-known definition above is precisely what is being described at column 20, lines 35-48 of Hendricks, namely that the access history and viewing habits of many users are compared with the habits of the present individual. Then, a simulated profile in Hendricks assumes that the subject viewer would like to watch something that is watched by one of the users whose profile is similar to that of the subject viewer. Heuristic rules, on the other hand, are rules “involving or serving as an aid to learning, discovery or problem solving by experimental

and esp. trial-and error methods; *also*: of or relating to exploratory problem-solving techniques that utilize self-educating techniques (as the evaluation of feedback) to improve performance” (*Webster’s New Collegiate Dictionary*, 9<sup>th</sup> ed.). Thus, one skilled in the art would understand the term “heuristic rules” to mean one or more rules that are determined from learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge or experience. Based on the description and use of the term “heuristic rules” in the specification, Applicants further submit that the term “heuristic rules” and the application thereof as used in the present application is consistent with the ordinary meaning of the term as known to one skilled in the art. Accordingly, one skilled in the art would recognize that Hendricks does not teach or suggest the use of “heuristic rules” as recited in the present claims, specification or generally in the art. If anything, Hendricks teaches collaborative filtering.

Even the Examiner concedes that heuristic rules are rules “in logical form [which] allow the system to apply generalization which have been learned from **external studies** to obtain a characterization of the subscriber and in the case of conditional probabilities, determination of the probable content of a program can be applied in a mathematical step to a matrix of conditional probabilities to obtain probabilistic subscriber profiles indicating program and product likes and dislikes as well as for determining probabilistic demographic data.” (Office Action, page 5). Thus, by the Examiner’s own admission, Hendricks’ collaborative filtering technique only “analyzes access history and viewing habits” and does not “apply generalization[s] which have been learned from **external studies**.”

As such, in Hendricks, there is no application of “pre-defined heuristic rules to [a] plurality of consumer transaction records to generate inferred transaction characteristics of the consumers,” from independent claims 133 and 153. Hendricks simply generates programming for an individual that matches profiles of similar individuals. Accordingly, the portion of Hendricks cited by the Examiner actually teaches collaborative filtering and not pre-defined heuristic rules – two significantly different concepts.

## 2. Claims as Amended

Additionally, Hendricks does not disclose the manner in which the predefined heuristic rules applied in independent claims 133 and 153 are formulated.

Claim 133 recites “retrieving heuristic rules, wherein said heuristic rules have been predefined prior to accessing said plurality of consumer transaction records and wherein said predefined heuristic rules have been developed based on at least one psychological or sociological study.” Hendricks does not teach or suggest heuristic rules, let alone heuristic rules “developed based on at least one psychological or sociological study.” Not only is this element not described in Hendricks, but the concepts of a “sociological,” “psychological” and/or equivalent studies and/or their application to determine consumer characteristics do not appear anywhere in Hendricks. At most, Hendricks discloses the use of “test information generated from a statistically significant number of viewers” (Hendricks. Column 66, lines 61 - 62). As such Hendricks, focuses on statistical analysis of observed viewer interactions – not the application of predefined heuristic rules and/or the manner in which they are formulated.

Claim 153 recites “retrieving heuristic rules, wherein said heuristic rules have been predefined prior to accessing said plurality of consumer transaction records and wherein said predefined heuristic rules have been developed through the application of at least one heuristic process which incorporates at least two types of analysis selected from the group consisting of exploratory problem-solving, self-learning, discovery, experiments, trial and error, inferences, educated guesses, market studies, human knowledge and experience.” Hendricks does not teach or suggest heuristic rules which incorporate a multitude of types of analyses as recited in the claim. Hendricks only teaches collaborative filtering based on other user’s actions.

For at least these reasons, Hendricks does not disclose all of the features of independent claims 133 and 153. Dependent claims 134-139, 152 and 154-159 are allowable at least by their dependency on independent claims 133 and 153, respectively. Reconsideration and withdrawal of the Examiner’s anticipation rejection of claims 133 – 139 and 152 – 159 are respectfully requested.

*Conclusion*

In view of the foregoing amendments and remarks, Applicants respectfully submit that the Examiner's rejections have been overcome, and that the application, including claims 133-139 and 152-159, is in condition for allowance. Reconsideration and withdrawal of the Examiner's rejections and an early Notice of Allowance are respectfully requested.

Respectfully submitted,

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By: Andrew W. Spicer

Andrew W. Spicer  
Registration No. 57,420  
Technology, Patents & Licensing, Inc.  
2003 South Easton Road, Suite 208  
Doylestown, PA 18901  
267-880-1720

Customer No.: 27832